

ACHIEVEMENT AWARD

Stephanie Watts Butler, Ph.D., P.E.

TEXAS INSTRUMENTS

For game-changing scientific and technical innovations in the semiconductor industry, particularly energy solutions; and for the ability to manage unfamiliar complexities, resulting in sustained contributions to research, engineering, and managerial leadership.



An award-winning speech that Stephanie Watts Butler, Ph.D., P.E., gave in high school concerning the future of renewable energy anticipated her scientific interests, her talent for leadership, and her pioneering work in power electronics. During her 32-year career, she has shaped the direction of the semiconductor industry with her innovations in process control, technology and package development, and research and new product development. Armed with a broad knowledge of semiconductor science and an acute understanding of the competitive business environment for electronics, she works at the technical forefront of a worldwide shift to new energy sources.

Currently a technology innovation architect in the high-voltage power solutions business unit of Texas Instruments, Dr. Butler drives creation of technologies that result in smaller consumer and industrial products with better performance and energy efficiency. She is the innovator behind 16 U.S. patents. In the past seven years, five technologies she spearheaded were released to market by Texas Instruments.

One of Dr. Butler's most important achievements is 700-volt transistor technology enabling semiconductor products for zero standby power solutions. This breakthrough could conserve an estimated 10 percent of total domestic power wasted by chargers in standby mode and could be used in adapters and chargers for smartphones, tablets, TV and monitor power supplies, and standby and auxiliary power supplies. Dr. Butler also led the development of the SiPario high-density power converter packaging solution. SiPario integrates traditional silicon, discrete passives, and magnetics in a small package that significantly extends reliability and temperature capability.

Dr. Butler's innovations in advanced process control are enduring and far-reaching. As a graduate student, she combined semiconductor processing with modern control theory to improve on the exclusive use of statistical process control, which was then the industry standard. In the early 1990s, she coined the term "advanced process control" to describe the variety of techniques — statistical, model-based, and fault detection — she was exploring, and which have become the new norm worldwide.

Active in several scientific and engineering professional organizations, including the Society of Women Engineers, Dr. Butler is a fellow of the American Vacuum Society and a senior member of the IEEE Power Electronics Society. She has written more than 40 papers and speaks about innovation at universities and scientific conferences. She was selected by the *Dallas Business Journal* as a 2015 Women in Technology honoree and received the 2014 Dallas SWE Achievement Award for her accomplishments as a technology innovator. She serves on the Texas Girls Collaborative Project Champion Board and as a mentor for professional women in Menttium 100, a program designed to build a culture of diversity and inclusion by developing female leaders.

Dr. Butler earned her doctorate in chemical engineering from The University of Texas at Austin and her bachelor's degree in chemical engineering from Oklahoma State University.

She is married to her college sweetheart and has a teenage son. The Butler family enjoys movies, traveling, hiking, and photo journaling.



SUZANNE JENNICHES UPWARD MOBILITY AWARD

ENDOWED BY NORTHROP GRUMMAN CORPORATION

Jill M. Hruby

SANDIA CORPORATION

For exceptional, principled leadership of one of the world's preeminent engineering organizations; for depth of vision in support of national security; and for creating an environment where women engineers can reach farther and higher.

Jill M. Hruby is director of Sandia National Laboratories and president of Sandia Corporation, which operates the Laboratories for the U.S. Department of Energy's National Nuclear Security Administration. She is the first woman to lead a national security laboratory. Sandia has two primary sites, operating revenue of about \$2.8 billion, and more than 10,600 employees.

Hruby joined Sandia in 1983, and for six years, her work included contributing to and leading teams of expert engineers in thermal and fluid sciences, solar thermal energy, and weapons components. Hruby earned her first managerial appointment in 1989. She later served in various senior manager positions, responsible for weapon components, microtechnologies, and materials processing. Many of her diverse staff followed her leadership model and went on to become technical leaders and managers.

In 2003, Hruby became a technical director, leading the Materials Science and Engineering Center. In 2005, she became director of the Homeland Security and Defense Center, focusing on systems analysis, applied research, and systems engineering.

In 2010, Hruby came to Sandia's New Mexico site as vice president of the Energy, Nonproliferation, and High-Consequence Security Division, and leader of Sandia's International, Homeland, and Nuclear Security Program Management Unit (PMU), with a staff of more than 1,300 employees. The PMU's mission encom-

passed safeguarding nuclear weapons and materials, protecting critical government assets and installations, ensuring their resilience, and reducing the risks of catastrophic events.

A role model to women at Sandia and beyond, Hruby's efforts have created an environment at the laboratories in which women thrive. She has worked with women's networks in New Mexico and California to promote women in engineering. She candidly discusses her leadership path, challenges, and achievements. She inspires women engineers to become leaders, and she energetically encourages girls and young women all over the U.S. to consider engineering as a career.

Hruby earned a B.S. from Purdue University and an M.S. from the University of California at Berkeley, both in mechanical engineering. She has authored numerous publications, including 30 peer-reviewed papers; holds three patents in microfabrication; and received an R&D 100 award in solid-state radiation detection. She has recently served on the Threat Reduction Advisory Committee for the Department of Defense, and the Board on Chemical Sciences and Technology for the National Academy of Sciences. She has served on several university and community boards, and as campus executive at the Georgia Institute of Technology.

A mother of two successful adult daughters, Hruby continues to reach out to help other women reach up. In the words of one of her mentees: "She is a lodestar."

RODNEY D. CHIPP MEMORIAL AWARD

Charles E. Browning, Ph.D.

UNIVERSITY OF DAYTON



For successfully making inclusion a core workplace value; for taking the initiative to build diversity; and for creating vital success paths and processes for women.

Charles E. Browning, Ph.D., heads the chemical and materials engineering department at the University of Dayton, where he has worked since retiring from the Air Force's senior executive service in 2005. The students who have taken Dr. Browning's courses there know him as the recipient of the Torley Endowed Chair in Composite Materials Engineering and as an internationally recognized expert in advanced materials technology.

But what they may not know about the professor, who is a fellow in the Society for the Advancement of Material and Process Engineering and a former director of the Air Force Research Laboratory (AFRL) Materials and Manufacturing Directorate, is that the contribution he values most had little to do with materials science and everything to do with social change. From 1985, when he became branch chief of the Materials Laboratory's Structural Materials Branch, to 2005, when he completed his seventh year as the head of AFRL's Materials and Manufacturing Directorate, Dr. Browning worked tirelessly to bring a new spirit of diversity and inclusion to his research organization.

Early in his career, Dr. Browning noticed how few women and minorities worked in STEM fields. He believed that more diversity was needed to drive innovation. So, he committed himself to finding ways to build a diverse, inclusive, world-class talent pool.

Initially, he worked alone, within the existing federal system, implementing a low-profile, structured plan to recruit, hire, mentor, train, and advance capable women. He created part-time or entry-level science and engineering positions, frequently funded out of his department's discretionary budget, filled them with strong female candidates, and then, after sufficient

mentoring and training, moved them into permanent slots as they became available.

To improve success rates, Dr. Browning sought out women with strong academic, communication, and life skills. He asked them about the challenges they faced at work and found ways to remove those challenges. He continued to mentor and prepare them for advancement throughout their AFRL careers. Dr. Browning eventually hired and then reassigned 99 women, adding them to what had previously been a 600-person, almost all-male, workforce. This first group of hires received 143 promotions into high-grade positions, including 22 supervisory roles.

Dr. Browning would go on to help develop two major STEM diversity initiatives: extending the Air Force's Science and Technology Workforce for the 21st Century program to include minority serving institutions and creating the Minority Leaders Research Collaboration Program, a private sector/university partnership targeting minority scientists and engineers, which the White House hailed as "The DoD Model."

Among Dr. Browning's numerous awards are the Presidential Meritorious Rank Award and the Air Force Materiel Command EEO Management Action Award. He received a B.S. in chemistry from West Virginia University, an M.S. in chemistry from Wright State University, and a Ph.D. in materials engineering from the University of Dayton.

One highly successful female engineer who had worked in Dr. Browning's AFRL directorate summed up his contribution succinctly: "No one at the Air Force Research Laboratory has had a greater impact on the advancement and achievement of women engineers."



RODNEY D. CHIPP MEMORIAL AWARD

Alfred Grasso

MITRE CORPORATION

For unwavering efforts to achieve greater workplace diversity and inclusion, and for commitment to place women in top leadership positions.

Alfred Grasso, president and CEO of the MITRE Corporation, is responsible for developing, implementing, and leading MITRE's overall strategic plan. He oversees day-to-day operations of the company's federally funded research and development centers and serves on MITRE's board of trustees.

Throughout his career, and particularly since he became MITRE's CEO in 2006, Grasso has worked tirelessly to make MITRE one of the most employee-friendly, diverse, and inclusive workplaces on the planet. His efforts to recruit, retain, develop, mentor, and advance women engineers and other traditionally underrepresented groups have placed MITRE at the forefront of those who recognize that, in today's highly collaborative, team-driven workplace, diversity spurs innovation. The best new ideas surface when teams of people from varied backgrounds, experiences, and viewpoints collaborate on solutions to specific problems.

Tangible results of Grasso's efforts can be seen at every turn, in the high level of participation and achievement that women engineers currently enjoy at MITRE. For example, out of MITRE's workforce of 6,600 engineers and STEM-related professionals, a full 29 percent are women — a rate 48 percent above engineering industry norms. In 2015, 32.2 percent of the company's total new hires were women, and 35 percent of its existing women engineers received promotions to the next career level. Between 2010 and 2016, Grasso promoted four women engineers to vice president, increasing the ranks of MITRE's female executives by 50 percent. Grasso also has doubled the number of women on MITRE's board of trustees, raising it from two to four, since he became CEO.

MITRE continues to invest in new professional growth opportunities for women engineers. Grasso has purchased corporate memberships in the Society of Women Engineers, Women in Technology, Women in Aerospace, and Linkage's Women in Leadership Institute. Through such memberships, MITRE's female engineers gain opportunities to continue their professional development, network with other women engineers, participate in special leadership and skills training, attend conferences, and showcase their achievements outside of MITRE.

Grasso's efforts to promote diversity and inclusion extend beyond MITRE. He created Young Women in Engineering Day, a MITRE annual conference/open house designed to interest schoolgirls in considering studies and careers in STEM-related fields. Hundreds of middle school and high school girls have attended the program since its inception in 2006.

MITRE also collaborates with the National GEM Consortium, a group that supports the educational goals of STEM students from underrepresented minority groups. Each year, MITRE welcomes several GEM fellows and helps them pursue graduate degrees through paid internships or full-tuition assistance.

Grasso joined MITRE in 1986 and rose to leadership working with sponsors in agencies across the federal government. He holds a B.S. in electrical engineering from the University of Massachusetts Amherst and an M.S. in computer science from Worcester Polytechnic Institute. He also completed the Management Development Program at Harvard Business School.

He has three daughters, all of whom have focused their educations on the sciences.

RODNEY D. CHIPP MEMORIAL AWARD

Bob Smith

HONEYWELL AEROSPACE



For a commitment to recruit, retain, and advance women engineers; for effectively managing outcomes; and for developing new programs to ensure positive results.

Bob Smith, vice president and chief technology officer for Honeywell Aerospace, leads a global workforce of more than 12,000 engineers and scientists united in a common mission: to develop and apply new technologies that improve the capabilities and performance of commercial and military aircraft, and the vehicles that enable us to explore the frontiers of space.

Diversity and inclusion have been front-burner issues for Smith throughout his 25-year career. Early on, he saw that women and minorities were underrepresented in technical disciplines. He realized that a world-class innovator needs a diverse workforce, and an inclusive culture, if it hopes to surface great ideas and compete on a global scale.

Since joining Honeywell in 2004, Smith has made diversity and inclusion top priorities. He counts these goals among his organization's seven guiding principles, and he has implemented a rigorous management operating system to track progress and hold managers accountable for results. In 2013, Smith formed an engineering and technology diversity and inclusion council and empowered it to take action to advance the hiring, development, and advancement of women and minorities.

A linchpin of Smith's implementation strategy has been to fully leverage Honeywell's relationship with SWE. Honeywell now provides more than 200 employees with corporate-sponsored SWE memberships, and Smith's team has greatly increased its participation in SWE events. Approximately 70 men and women represented Honeywell at SWE's 2015 annual conference. At the time, one Honeywell employee was SWE president, and another received SWE's prestigious Suzanne Jenniches Upward Mobility Award.

Honeywell recruitment through SWE also has skyrocketed. In 2009, the company hired two women engineers at the SWE conference. By 2014, that number had risen to 43 — a net gain of more than 2,000 percent.

In 2014, Honeywell Aerospace launched new programs to promote internal networking and professional development for women. These included the Women in Honeywell Engineering Network, the Aerospace Women's Council, and a new mentoring sponsorship program championed by Smith.

The mentoring program, currently in pilot testing, matches promising women and minority candidates with senior-level mentors. Each mentee receives two years of one-on-one mentoring help and participates in a special "stretch experience" to further enrich the process.

Prior to his current role, Smith was vice president of advanced technology for Honeywell Aerospace, and before that, he worked for The Aerospace Corporation, where he held several positions, including director of NASA programs. In 2000, Smith became executive director at United Space Alliance, NASA's primary industry partner for space shuttle operations.

Smith holds a B.S. in aeronautical engineering from Texas A&M University and an M.S. in applied mathematics and engineering from Brown University. He received a doctorate in aerospace engineering from The University of Texas at Austin and a master's degree from the Massachusetts Institute of Technology's Sloan School of Management. Smith has lectured at UCLA, been co-principal investigator on a NASA shuttle experiment, and has authored numerous technical papers. He is the former president of the International Society of Air Breathing Engines, a fellow of both the American Institute of Aeronautics and Astronautics and the Royal Aeronautical Society, and the recipient of numerous industry honors.

Smith lives in Phoenix and is the proud father of a daughter, Bailey, who is a first-year university student. In his time outside of work, he is a private pilot, hikes and climbs mountains, sails, and is involved in several charities.



ENTREPRENEUR AWARD

Michele S. Stuart

EFFICIENCY ENGINEERS

For realizing the potential of applying industrial engineering services to the health care industry, achieving dramatic results, and exemplifying the pioneering spirit of entrepreneurship.

Michele S. Stuart is the founder and president of Efficiency Engineers (EE), an industrial engineering consulting firm based in Lehigh Valley, Pennsylvania. A background of more than 35 years in industrial engineering, information systems, and operations research has given her a unique perspective on management of employees and customers' needs, helping both reach greater efficiency and productivity.

When Stuart decided to pursue an engineering career in the 1970s, less than 8 percent of engineers were women. As the first IBM personal computers were launched, Stuart saw their potential to help businesses make data-driven decisions. She risked her own finances to found EE, setting it up as a "virtual company," a concept unheard of at the time.

To build the business, Stuart assembled a core team of expert engineers, staffing her company with master's level talent in the service of five core initiatives: performance improvements, productivity enhancements, cost-saving initiatives, positive change, and dramatic results. Each project EE takes on has the goal of growing customer profitability and uses lean/Six Sigma strategies to gain dramatic results in both profits and employee satisfaction. Because the company is virtual, employees are geographically scattered, but retention is high, with many surpassing the 10-year mark.

Stuart's management style reflects her commitment to being available to employees and clients in real time, and she is a strong advocate of continuous learning for herself as well as others. Over a 22-year period, EE

has seen its profit margins grow from 3 to 45 percent, with all but two of more than 300 projects successfully meeting their goals. These projects have ranged across 50 industries and organizations across the globe and have delivered between 10 and 300 percent return on client investment. Stuart's client base has varied from law and insurance offices to government facilities and social media management firms. Currently, EE focuses 95 percent of its resources on providing industrial engineering services to the burgeoning health care markets in the U.S. and around the world, which includes hospitals, outpatient centers, pharmaceutical, and medical device companies.

Stuart holds a B.S. and an M.E., both in industrial engineering and operations research from Virginia Tech, and continues to teach as an adjunct professor through the Quality Group. She has been involved in 10 professional organizations and societies, from the Institute of Industrial and Systems Engineers to the Greater Lehigh Valley Chamber of Commerce. She keeps her teaching skills current by continuing to teach at several local colleges and universities.

A mentor and champion of young engineers, Stuart takes a particular interest in promoting science, technology, engineering, and mathematics (STEM) to girls in the Lehigh Valley community. Stuart and her husband, an orthopedic surgeon, have two children and two grandsons. In her spare time, she enjoys world travel, fine wine, and solving puzzles of all kinds.

 WORK LIFE INTEGRATION AWARD

Ingolf Prüfer

JOHN DEERE



For being a tireless champion of workplace policies that make it possible for all employees, at every career stage, to effectively address both professional and personal commitments.

Since 2001, Ingolf Prüfer has been the Region 2 global human resources (HR) director for John Deere. He is responsible for labor relations, compensation and benefits, attraction and retention, and employee development for 11,000 people at 40 John Deere locations in 19 countries in Europe, the Near and Middle East, and the Commonwealth of Independent States. He joined John Deere in 1984.

In his negotiations with unions, works councils, and management, Prüfer forged agreements that recognize the importance of job flexibility and job security and assembled a mosaic of work/life integration programs and activities. These landmark programs include flextime, part time, job sharing, and telecommuting, as well as on-site daycare, subsidized holiday child care, and training for employees caring for relatives with special needs. Prüfer has not only succeeded in keeping the issue of work/life integration at the forefront of John Deere's HR strategy, but he has also ensured that resources are available to implement and execute the programs.

Over the past 10 years, the impact of these work/life integration programs on John Deere, Region 2 has been dramatically evident. The number of female employees has increased 260 percent in engineering, 500 percent in management, and 700 percent in upper management. In Region 2, 42 percent of all eligible wage employees and 82 percent of all salaried employees take advantage of the flextime option, and 13 percent of eligible salaried employees use the telecommuting program. The part-time program is benefiting 5 percent of eligible wage employees and 6 percent of all salaried employees.

John Deere, Region 2 has received numerous awards as a result of Prüfer's commitment to work/life integration. John Deere Spain has been awarded a Top Employer award for excellence in employment processes and corporate culture for three consecutive years, and John Deere Luxembourg received the Best Workplace award in 2014 and 2015. The Regional Economic Development Company of Bruchsal awarded John Deere Bruchsal the Family-Friendly in Bruchsal award. The company received a "BFamily Award," given annually to technical companies with family-friendly policies and was commended for offering flexible working hours, telecommuting, child care, health and sports activities, a sickness compensation fund, and the Living Ergonomics project. In 2016, John Deere Germany was recognized by *Focus* magazine as a top employer and honored by *Freundin* magazine for its family-friendly policies.

Prüfer is chairman of the board of the Employers' Association of the Metal and Electrical Industry (Südwestmetall) for the metal and electrical industries in the Rhine-Neckar Region, a board member of German Employer Associations, and a member of the BDA (German Business Representation) social committee. He also plays an active role in a local Lions Club.

In 1979, Prüfer earned a degree in economics (Diplom Volkswirt) from the University Fridericiana of Karlsruhe in Karlsruhe, Germany.

Prüfer and his wife, Monica, have two adult children, Martina and Thomas. Prüfer enjoys traveling, meeting people from different cultural backgrounds, gardening, and spending time with family and friends.



DISTINGUISHED ENGINEERING EDUCATOR

Pamela M. Norris, Ph.D.

UNIVERSITY OF VIRGINIA

For enduring, positive influence on students' lives as a gifted teacher, mentor, and role model; and for promoting greater diversity in STEM higher education.

Pamela M. Norris, Ph.D., is the executive associate dean for research in the School of Engineering and Applied Science (SEAS) and the Frederick Tracy Morse Professor of Mechanical and Aerospace Engineering at the University of Virginia (UVA). In addition to her research and academic responsibilities, Dr. Norris serves as the university's special advisor to the provost and as director of its National Science Foundation ADVANCE Institutional Transformation program.

She earned her Ph.D. in mechanical engineering from the Georgia Institute of Technology in 1992. She joined the UVA faculty two years later, after completing postdoctoral studies at the University of California, Berkeley. That same year she founded two research labs at UVA: the Nanoscale Energy Transfer Lab and the Aerogel Research Lab. Since then, she has attracted more than \$25 million in research grants to fund 45 sponsored research projects at the labs. Dr. Norris served as principal investigator (PI) or co-PI on each of those projects. Her work has produced three patents covering the use of aerogels for biological warfare detection and lab-on-a-chip applications.

Today, Dr. Norris is recognized globally as a leading expert in both research fields. She routinely chairs, and speaks at, international conferences on those subjects and has published more than 100 heavily cited refereed journal papers.

Despite a demanding schedule, Dr. Norris finds time to advise, mentor, and educate all undergraduate students who show an interest in her work. She typically supervises three undergraduate theses each year and has advised 24 doctoral students, 26 master's degree students, and many research assistants. Last year, six

of her students earned their Ph.D.s. For her efforts, Dr. Norris received the Undergraduate Research Network Faculty Award for Mentorship in 2006 and 2007. And this year she received the Elizabeth Zintl Leadership Award, which honors women working across the university who exemplify the high degree of professionalism, creativity, and commitment that characterized Zintl's contributions to UVA.

Dr. Norris has created programs and training to boost her students' chances for success. One, a teaching internship for doctoral students, enables graduate students to work with faculty mentors for a semester developing and teaching new university-level courses. Such training is rarely offered to graduate students, and it has played a decisive role in helping some land their first assistant professorships.

Throughout her 22 years at UVA, Dr. Norris has been a passionate advocate for promoting greater involvement of women in STEM studies. Her efforts to educate faculty and staff have helped SEAS achieve an undergraduate student body that is 32 percent female, and 26 percent of the Ph.D.s the school awards go to women.

Further progress is likely now that UVA has secured a \$3 million NSF grant designed to achieve deep institutional and cultural transformation leading to more diversity among STEM faculty. Dr. Norris played a key role in making the grant happen.

The mother of Abbey, 14, and Alex, 12, Dr. Norris and her husband, Eric, enjoy traveling and wine tasting. They have explored South America twice while she taught alternative energy through Semester at Sea, a study-abroad program on board a ship.

ADVOCATING WOMEN IN ENGINEERING AWARD

Natalie Hagan

THE JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY

For sustained excellence in software reverse engineering and cybersecurity, and for inspiring and empowering other women engineers with engaged leadership on diversity and inclusion.



Natalie Hagan is an electrical engineer in the wireless cyber capabilities group at The Johns Hopkins University Applied Physics Laboratory (JHU/APL), where she performs reverse engineering and driver development on classified projects and high-level language development. She assists in supervising a staff of 40 people working on next-generation wireless systems. In addition, she is technical lead and project manager on a number of multidisciplinary projects. An expert in software development, signal processing, and communications engineering, Hagan has been invited to teach reverse engineering to U.S. government researchers.

She graduated *magna cum laude* from the University of Maryland with a B.S. in electrical engineering and earned a master's degree in electrical engineering from The Johns Hopkins Whiting School of Engineering with a concentration in telecommunications and networking. In 2001, she was hired by Lockheed Martin and was selected for the company's advanced technical leadership program. She joined JHU/APL in 2007 and quickly became a section supervisor in the unconventional signals section, responsible for group hiring and an 11-member staff.

Hagan's advocacy for women in engineering has resulted in significant workplace changes at JHU/APL. Her deep commitment and efforts have established her as a role model for women engineers, created a culture of mentoring and empowerment, and put in place a robust structure for the advancement of women engineers. Elected to be a representative to the Lab-wide Women and Minority Advisory Council, Hagan put

together a team that presented recommendations to advance the careers of women and minorities. As co-leader of the 15-member diversity resource team, Hagan implemented changes to improve recruitment and retention of diverse staff, increase thought diversity, and develop leaders among women and minorities. She led a team that analyzed the orientation of newly hired women and minorities, which resulted in better career and promotion guidance. She also led efforts to initiate a series of outreach inclusion events, to cultivate women leaders, and to advocate women engineers to senior management.

As a section supervisor and member of a hiring team at the lab, Hagan achieved a sevenfold increase in the number of women engineers in three different technical groups. She also advocated recruiting women engineers via university outreach events and conferences. She directly mentored the women engineers on her team, but perhaps Hagan's most important contribution is introducing new ways of thinking that ensure lab projects include the talents, perspectives, and contributions of all the people working there.

In her spare time, Hagan tutors college students enrolled in science, technology, engineering, and mathematics (STEM) programs, mentors high school students, and participates in Girl Power events.

Personally, Hagan enjoys spending time outdoors with her husband of 15 years, Nathan, and her son, singing in her church's praise band, home remodeling, and cooking foods from different cultures.



ADVOCATING WOMEN IN ENGINEERING AWARD

Nora C. Lin, F.SWE

NORTHROP GRUMMAN CORPORATION

For forward-thinking leadership and tireless efforts in promoting engineering as a rewarding career for women, for advocating the advancement of women engineers, and for ensuring a supportive work environment.

Nora C. Lin, F.SWE, a naturalized U.S. citizen, received her bachelor's degree in physics in Taiwan and earned her master's in physics from The University of Alabama at Birmingham. She has broad experience in software and systems engineering and is currently an engineering program manager for Northrop Grumman Corporation. She is one of the first women engineers in the company to rise to the T6 technical consultant level. Lin was the recipient of the Women of Color in Technology Career Achievement Award in 2008 and the Asian American Engineer of the Year Award in 2009.

A SWE Fellow and life member, Lin has held many leadership positions, including Region H governor, director of regions, and Society president. For almost 20 years, she has been an advocate for women engineers through initiatives at Northrop Grumman and by building bridges between SWE and her employer. Lin represents Northrop Grumman on the SWE Corporate Partnership Council, and in 2003, proposed the Northrop Grumman Women Engineers (NGWE) group, working with the Society to implement it. This companywide program provides networking and development opportunities for women engineers and was the first such group at Northrop Grumman. Lin served as the first chair and has served as an advisor ever since. There are now more than 800 SWE members at the company. Lin has been instrumental in creating dozens of local NGWE groups and partner sites across the country. NGWE has increased the visibility of women engineers at Northrop Grumman and has improved the company's recruiting and retention of women engineers.

Lin also has worked tirelessly within Northrop Grumman to promote strong participation at the SWE annual conference. Her efforts have resulted in more than 100 women employees attending the conference every year since 2006. She helped make this possible by lobbying senior management to underwrite SWE membership and the expenses of attending the conference.

A strong believer in cultivating women leaders, Lin served as Region H leadership coach and chair. She also participated in section vitality teams, which evolved into the leadership coaching committee and the collegiate leadership coaching committee, for which Lin secured a \$75,000 donation from Northrop Grumman. Recognizing that women leaders are still underrepresented in academia, government, and business, Lin campaigned within Northrop Grumman for preservation of the SWE Upward Mobility Award and for naming it after its founder, Suzanne Jenniches. With her assistance, Northrop Grumman established an endowment to ensure perpetuity of the award.

As a first-generation immigrant, Lin enjoys reaching out to other technical professionals and encouraging them to not accept limitations set by others. She is actively involved in Northrop Grumman's outreach programs, such as DiscoverE and Connecting Educators to Engineering.

Lin volunteered in the children's ministry at her church for more than 15 years and served as a deacon for four years.

ADVOCATING WOMEN IN ENGINEERING AWARD

Beth A. Mitchell

GENERAL DYNAMICS MISSION SYSTEMS



For outstanding technical and managerial leadership, for personal dedication to a vision of inclusion for women in the engineering profession, and for serving as a role model and mentor.

Beth A. Mitchell is director of engineering for Maritime and Strategic Systems, General Dynamics Mission Systems. She leads more than 1,600 engineers in developing mission-critical systems and solutions and is responsible for both staffing and technical execution of programs.

Mitchell worked at General Electric (GE) Defense Systems as a college intern, joining the company full time after college graduation. She completed four, six-month rotations — quality engineer, production control specialist, advanced manufacturing engineer, and stockroom supervisor — to complete the company's Manufacturing Management Program. Mitchell graduated from GE's management development course, completed capability maturity model integration (CMMI) training, and led a divisionwide CMMI Level 5 certification effort. Among her many certifications are: Six Sigma black belt, program management professional, and leadership in energy and environmental design.

Over the course of her career, Mitchell has held positions of ever-increasing responsibility, despite entering the workforce when women in engineering management were the exception, and despite major corporate changes as GE transitioned to General Dynamics. In 2006, Mitchell left General Dynamics for a position as vice president for design, technology, and quality at Unistress Corp. She returned to General Dynamics in 2010 to work on the littoral combat ship (LCS) USS Coronado project, and in May 2012, was promoted to her current position.

Mitchell has been a driving force in expanding the Engineering Leadership Program (ELP) at General Dynamics. In 2013, this three-year rotational technical leadership development program for high-potential, entry-level employees existed at only one location. Thanks to Mitchell, there are now eight ELP locations, and the number of women in the program has doubled. Mitchell helps place women ELP graduates on the newly formed General Dynamics performance leadership team.

Outside of her job, Mitchell's advocacy is consistently demonstrated. She mentors women through involvement in the University of Massachusetts College of Engineering for Growing Women in Engineering, Women on TechPath, STEM conferences, Girls Incorporated, and United Way's committee to reduce teen pregnancy. Mitchell has served on countless boards and continues to serve on the Massachusetts College of Liberal Arts STEM Advisory Council, the Massachusetts Business Roundtable, and the Massachusetts Workforce Development Board. In three appearances on the Pittsfield, Massachusetts, PBS channel, Mitchell shared her experiences as a woman engineer, talked about the importance of mentoring young women engineers, and answered questions about working in a male-dominated field.

Mitchell worked her way through Boston University, graduating in 1986 with a degree in electrical engineering. She and her husband live in Dalton, Massachusetts, and have two daughters. Mitchell enjoys spending time with her family, camping, and reading.



ADVOCATING WOMEN IN ENGINEERING AWARD

Marla Ann Peterson

HONEYWELL AEROSPACE ENGINEERING AND TECHNOLOGY

For setting an example as a capable leader, for working to ensure that the voices and ideas of women engineers are heard, and for helping countless women realize their full potential.

Marla Ann Peterson has held leadership roles for the last 17 of her 33 years with Honeywell. She is currently production support engineering senior technology manager, a new position tasked with resolving producibility issues on the factory floor. Prior to this assignment, Peterson was director of engineering operational excellence, where she led creation and deployment of the Aerospace Process Maturity model to evaluate capability for all centers of excellence at Honeywell.

Peterson holds a bachelor of science in systems engineering from The University of Arizona. In May of 1983, she joined Garrett Engine, a division of the Signal Companies, which eventually became part of Honeywell. Peterson worked in developing analysis software for propulsion engines and auxiliary power units before moving into project management of cross-functional productivity projects, where she implemented the first rapid prototyping device. A certified lean master, lean expert, black belt, and design for Six Sigma green belt at Honeywell, Peterson uses her wide experience to drive process improvement and efficiencies.

In addition to setting an example as a technically capable leader, Peterson's advocacy strategies include networking, mentoring interns, and co-sponsoring women for high-visibility projects. She has a strong focus on ensuring that women are heard and coaches women on how to make their points in meetings.

Realizing that the most effective workforce is diverse, Peterson became involved in recruiting at The University of Arizona. She has interviewed hundreds of female engineers, resulting in countless full-time and intern hires. In the 1990s, she established a Honeywell intern program that included social activities, career discussions, and a 12-week technical job.

A founding member of Engineering and Technology's Diversity and Inclusion Council, Peterson has become a go-to person for women seeking counseling and advice. In 2002, she set up a program with three Mexican universities in partnership with the company's global partners. By providing funding, internships, and classroom opportunities at Arizona State University, Mexican students were introduced to collaborative projects tied to turbine engine analysis.

A member of the Society of Women Engineers, Peterson represents Honeywell on the SWE Corporate Partnership Council (CPC) and is a founding member of the Aerospace Engineering and Technology Diversity Council. She is also a core member and co-chair for mentoring in the Women and Honeywell Engineering Network. Peterson represents Aerospace Engineering and Technology at SWE conferences, doing triple duty as coordinator, awards chair, and interviewer.

Peterson lives in Phoenix with her husband, Rob, and sons, Max and Rex. She belongs to Tau Beta Pi and is a member of First United Methodist Church of Mesa.

 ADVOCATING WOMEN IN ENGINEERING AWARD

Shelley A.M. Wolff, P.E., F.SWE

HNTB CORPORATION



For a commitment to opening doors for women engineers that spans a career in civil engineering; active participation in community organizations; and decades of service to SWE.

Shelley A.M. Wolff, P.E., F.SWE, is a civil engineer and vice president in the corporate delivery office of HNTB, a major infrastructure firm. Wolff leads project management process development, training, and implementation of best management practices and is a subject matter expert for six division delivery officers, 28 delivery managers, and 300 project managers.

Wolff is a registered professional engineer and a LEED accredited professional. She holds a B.S. in civil engineering from Iowa State University, an M.S. in engineering management from the University of Kansas, and an M.A. in organizational management from the University of Phoenix. She has enjoyed increasing responsibility over her 36-year career at HNTB. She began as a designer in the highway design section and quickly progressed to project manager, leading teams of designers and technicians to plan roadway and interchange projects.

While moving her own career forward, Wolff has remained committed to the aspirations of other women engineers and attuned to the challenges they face. In addition to mentoring many individual women at HNTB, Wolff is a company resource for diversity and inclusion. In 2002, she was asked to lead a committee to review the company's recruiting and hiring, mentoring, retention, promotion, and compensation performance. The review resulted in greater awareness of the need for diversity at HNTB and expanded efforts to recruit and retain a more diverse workforce.

In her department manager role, Wolff engaged with employees to identify assignments that stretched technical abilities, increased leadership skills, and fur-

thered careers. For example, when assembling teams for two major projects on federal lands, Wolff made sure everyone saw the projects as resume-boosting opportunities to do meaningful fieldwork. She also counseled many women about the rigors of remote fieldwork and advised them on how to prepare for it.

A SWE member since college, Wolff has held offices at the local, regional, and Society levels, including SWE president. She is a SWE Fellow and life member. She is active in the Kansas City Section and contributed to the success of two projects advocating women in engineering. For the 1999 Raceways project, she enlisted high school girls to help SWE-KC build an interactive exhibit demonstrating gravitational physics for a children's museum. The 2001 Computer Camp project gave hands-on computer experience to underprivileged middle-school girls. For this project, Wolff helped secure funding through the Region VII Women's Bureau of the Department of Labor and a SWE grant from Microsoft Corp.

Wolff is a charter member of the Kansas City Central Exchange WiSTEMM committee, which recognizes Kansas City women working in science, technology, engineering, mathematics, and medicine (STEMM) fields. She has built bridges with SWE, recruited speakers, and helped create the Kansas City STEMM Awards to honor women innovators, educators, and students in STEMM fields.

She spends her free time reading, quilting, and traveling with her husband, Rick. They enjoy visiting their daughter in Washington, D.C., and their son and family in Lawrence, Kansas.



GLOBAL LEADERSHIP AWARD

Decie Autin

EXXONMOBIL

For demonstrating cultural sensitivity, while at the same time achieving technological breakthroughs in projects worldwide, and providing opportunities for women to develop their capabilities.

Decie Autin has overseen technologically challenging engineering projects throughout the world, all the while boosting women's training and employment opportunities. Autin, global operations manager at ExxonMobil Production Company in Houston and a 35-year company veteran, leads the setup of operations teams that develop greenfield sites and ensure their safety, training, and efficient and profitable operations. She is credited with keen listening skills and fostering diversity, respect, and self-improvement among her team members.

One of Autin's successes is overseeing construction of a \$19 billion liquid natural-gas pipeline through remote areas of Papua New Guinea, crossing mountains, volcanoes, and rugged highlands. During the project, she set up the Women's Energy Network to advance female ExxonMobil employees' careers and personal development; mentored local high school girls and women in university; and supported indigenous women-owned businesses. Autin also sponsored several local female leaders in the Global Women in Management (GWIM) program and hosted a GWIM workshop that has enabled 50 local women to hone their leadership and management skills. In addition, Autin sponsored a conference titled "Living Your Legacy Now," led by a consulting firm, in which the all-female attendees of expatriates, pipeline employees, and local women mapped out their life plans.

For her dedication, Autin was honored with a scholarship in her name for female engineering students in Papua New Guinea. The first recipient of the

scholarship, sponsored by Hides Gas Development Co., graduated in 2015 and is now an employee of ExxonMobil's affiliate on the island.

Her career includes other global success stories, such as her 1998 to 2000 tenure as technical and startup manager of the Hoover-Diana project in the Gulf of Mexico, the world's deepest offshore oil and gas production platform at the time. The project set records for the largest industrial tow through the Houston Ship Channel, the largest use of hydraulic tensioners for the driller rising systems, and the largest decks to be lifted and set in open water in the Gulf of Mexico. She also oversaw a \$4 billion project from 2002 to 2006 to commercialize an oil field in Nigerian federal waters near Lagos, Nigeria.

Autin herself established a scholarship at her alma mater, the Georgia Institute of Technology, in memory of her father. In 2004, she was inducted into Georgia Tech's Academy of Distinguished Engineering Alumni and serves as a trustee of the university's alumni association. Autin also serves as president of her local Houston chapter of the women's philanthropic organization P.E.O., where she has been active since she was a teenager and works to identify needy and deserving women for full and partial scholarships.

Autin is an avid birdwatcher along with her husband, Dan Coleman. During their travels, they manage to find time to seek out some of the birds in the area. To date they have seen approximately 3,200 species, almost a third of the bird species in the world.

GLOBAL LEADERSHIP AWARD

Louise Goetz

GE OIL & GAS



For creative and visionary technical leadership in overseeing cross-cultural projects worldwide; for motivating employees by focusing on common goals and strategies; and for serving as a strong role model.

Louise Goetz, recently appointed to the role of Europe Regional Leader for GE Oil & Gas' subsea systems and drilling business division, and previously drilling executive engineering director for GE Oil & Gas, has 24 years of experience with General Electric, working in both Houston and Aberdeen, Scotland, in a variety of challenging roles. She joined the male-dominated oil and gas industry when business output was at an all-time high, and customers were expecting GE's cutting-edge industry technology to keep up with very high-volume demand. Nine years later, in mid-2015, the commodity market crash challenged Goetz to shift her team's focus to meet new market trends and maintain morale during the downturn.

Goetz, until her recent move to Aberdeen the highest-ranking female in engineering across GE's presence in Houston, comprising 6,000 employees, has emphasized resolving any generational gaps between retiring baby boomers and early-career millennials by encouraging them to learn together and share their knowledge. To strengthen teamwork and communications, Goetz holds regular global staff meetings that focus everyone on common goals and strategies.

Meanwhile, she has grown the global engineering organization by more than 30 percent, including doubling the India team and tripling the China team. She earned recognition for her leadership style and ability to grow opportunities, including reorganizing the recently acquired Wood Group and Surface Engineering teams, by being awarded the 2013 GE Oil & Gas Inclusiveness Award. She also received the GE Women in Technology Award for 2010-2011.

Goetz, the mother of two, also serves as a role model for young women. Since 2014, she has been the co-leader of GE Girls, a GE-sponsored national outreach program that partners with universities to hold STEM summer camps for middle-school girls. Her deep passion for this program originated from her own childhood. Growing up in Aberdeen, Scotland, she was uncertain what she wanted to be. She realized her "engineering destiny" while attending a summer camp program designed to interest young girls in careers in science and engineering.

Under Goetz's guidance, GE Girls built an infrastructure for leadership development, alumni engagement, and plans for future growth. Goetz also drastically reduced the cost of the program, removing 81 percent of the original camp costs by leveraging content and leaders across the Society of Women Engineers, GE affinity groups, GE volunteers, and the rest of her network.

She is also a sponsor for the Houston hub of GE Women and Technology and a mentor to several employees through the GE Power & Water Engineering Diversity Development Program. She served as a coach for the 2013 corporate leadership staff team and provided significant contributions for the SWE scholarship fundraiser, donating spa days, luncheons, and other events that contributed to raising more than \$100,000.

Goetz holds a Bachelor of Engineering degree in mechanical engineering from the University of Northumbria at Newcastle, in the U.K.



GLOBAL LEADERSHIP AWARD

Barbara E. Rusinko

BECHTEL GROUP

For her rise from engineering intern to the top-ranked woman at Bechtel; for demonstrating global leadership and uncommon technical acumen; and for being a shining example and inspiration.

Barbara E. Rusinko's technical skills and generosity as a mentor helped spur her impressive success in serving as the highest-ranking woman at Bechtel. Thirty-one years after starting as an engineering intern, she is now president of the Bechtel Nuclear, Security, and Environmental global business unit.

Nuclear, Security, and Environmental contains all of Bechtel's U.S. government services and commercial nuclear work, making Rusinko responsible for managing the company's global multibillion-dollar business portfolio in defense, environmental, national security, and nuclear industries. The portfolio includes mega-projects spanning three continents and employs more than 35,000 technical and professional staff.

One of Rusinko's success stories involves serving as the senior project manager of an \$8 billion liquefied natural gas (LNG) plant in Queensland, Australia, where she led a 2,500-person project team to an on-time delivery of its first LNG cargo. Earlier, Rusinko served in leadership positions in Africa, Thailand, and the former Union of Soviet Socialist Republics (USSR).

She also served as design authority for engineering for the Yucca Mountain nuclear waste repository project, a critical site for ensuring U.S. energy security. Rusinko led several hundred project engineers and other employees in designing surface and subsurface facilities, waste storage packages, and other critical project features.

In 2009, she was manager of engineering at the Waste Treatment and Immobilization Plant (WTP) project in Washington state, the largest chemical radioactive waste treatment plant in the world. The plant

uses a novel process called vitrification to safeguard harmful waste, immobilizing radioactive waste in glass for storage.

Rusinko's work in sustainability has included mobilizing a Bechtel team in Map Ta Phut, Thailand, to rebuild and make safe, open-air learning areas and playgrounds for school-age children, and repairing a 100-year-old hall in Gladstone, Australia, so it could be used for first-responder training and during emergencies.

Along the way, Rusinko has helped pioneer new people programs, including the women's employee resource group, Women@Bechtel, in 2013. The group has grown into an enterprisewide effort with 19 chapters worldwide, in North America, Australia, India, and Africa, to name a few.

Rusinko also was influential in Bechtel's hosting its first Women's Leadership Conference in 2012 with speakers from the Society of Women Engineers, academia, and business. She also led the company to sponsor Bechtel's membership in SWE's Corporate Partnership Council.

Her commitments have helped the company achieve recognition for excellence from the National Association of Women in Construction in Gladstone, Australia, and the WISE (Women in Science, Technology, and Engineering) award in London.

Rusinko has two adult children, Theresa and John Michael. She enjoys outdoor activities, including kayaking, biking, and triathlons. Rusinko has been known to encourage her female colleagues to also take up long-distance biking, especially when a charity is involved.

GLOBAL TEAM LEADERSHIP AWARD

Rockwell Automation Insider Risk Team

For bringing previously isolated departments and functions together to overcome the cultural, legal, and technical challenges of global intellectual property theft and cyber sabotage.



Team leader, Dawn Cappelli

The Rockwell Automation Insider Risk Team is a woman-led, multidisciplinary group that developed a cutting-edge program consisting of technology and processes to thwart cyber sabotage and worldwide intellectual property theft that can cost companies billions.

The core team of 26 people consisted of 13 women, 17 STEM-degree holders, and six with law degrees. They represented eight countries and all of Rockwell Automation's company divisions. Their mission: Protect the company's operations, reputation, and intellectual property from employees, contractors, or trusted third parties who might steal information or sabotage products or infrastructure, whether because they want to take the secrets with them to a new job or to exact revenge over a perceived slight.

The Rockwell team, led by Dawn Cappelli, a software engineer and vice president, spent two-and-a-half years overcoming cultural, legal, and technical challenges.

Their solution: Human resources leaders worldwide are now trained to trigger an insider risk audit when someone with access to critical information is leaving the company, and insider risk analytics provide prioritized alerts on a near real-time basis based on custom risk scoring models that operate on diverse data feeds from across the company.

The team's breakthrough transformed research into operational technology and processes; created and extended training that will be global, yet culturally relevant; respected international and local privacy laws; and worked across time zones with people of different backgrounds.

The team also is creating a consortium of human resources professionals to further advance the state of insider risk programs in the private sector. Such programs are rare because they're complicated to develop and require technology to be interwoven with human insight and quick thinking.

Caitlin Barrah, J.D., General Counsel South Asia Pacific, Australia

Dawn Cappelli, Vice President and Chief Information Security Officer, United States

Fatma Keskin, J.D., Senior Legal Counsel EMEA, Belgium
Greg Hathaway, Manager Business Information Security, United States

John Fields, Director Global Customer Information, United States

John Miller, J.D., Vice President and Chief Counsel IP, United States

Kristen Hardy, J.D., Investigative Lead Insider Risk, United States

Steve Nawalaniec, Global Program Director, United States

Sam Facey, J.D., Assistant General Counsel & Chief Privacy Officer, United States

Jennifer Uptegrove, Director Information Security & IT Program Liaison, United States

Paul Becker, Senior Specialist Information Security, United States

Patrick Wengert, Lead Information Security, United States

Marina Toro, Insider Risk Analyst, United States

Geoffrey Storms, Director A&S Business Ops and Security, United States

Bridget Wilcox, Manager Information Technology, United States

Karen Cronin, Senior Program Lead Tech Talent & Insider Risk, United States

Bob Pingel, Manager Business Information Security, United States

Edwin Joo Kiat Goh, Security Manager Asia Pacific, Singapore

Susan Schmitt, Senior Vice President Human Resources, United States

Mike Wiemann, Manager GSM Information Security, United States

Melissa Nandi, J.D., Insider Risk Litigation, Vice President Law, United States

Shoshana Wodzisz, Insider Risk Liaison, Program Security and Senior Program Lead, United States

Martha McGuire, HR Director, Global Process Improvement and Insider Risk Analytics Liaison, United States

Amanda Hall, HR Manager, United Kingdom

Casey Chunhao Bi, Regional Payroll Manager AP and HR Liaison, China

Chitrabhanu Ghosh, Head Legal & Corporate Affairs, India



PRISM AWARD

Christine A. Coverdale, Ph.D.

SANDIA NATIONAL LABORATORIES

For technical achievements and contributions in a highly specialized field, for encouraging women to consider STEM studies, and for working to make scientific research more inclusive.

Christine A. Coverdale, Ph.D., is a Distinguished Member of the technical staff at Sandia National Laboratories, in Albuquerque, New Mexico, and an experimental researcher in plasma physics and radiation effects sciences. Her research has helped deepen understanding of Z-pinch physics and is shaping the future course of research in that area. Her designation as a Distinguished Member of the lab's staff is a high honor, available only by special appointment and limited to 10 percent of all Sandia researchers.

Dr. Coverdale received a Ph.D. in plasma physics from the University of California, Davis in 1995. Afterward, she worked at Physics International, in San Leandro, California, for two years before joining Sandia in 1997 as a senior member of the technical staff. Her experimental research has helped prove important scientific theories, provide data to validate computational models for various radiation effects, accurately define previously estimated values and measurements, and advance understanding of practical applications in these fields.

An internationally recognized leader in her field, Dr. Coverdale is a fellow of both IEEE and the American Physical Society (APS). She has authored or co-authored more than 120 peer-reviewed papers, served repeatedly in top leadership roles for major technical societies, and is a highly sought-after speaker.

She has served as technical program chair for the IEEE International Conference on Plasma Science for four of the last six years and has served on the IEEE Plasma Science and Applications Committee, the IEEE Nuclear and Plasma Sciences Society Administrative Committee, and the executive committee for the APS

Division of Plasma Physics. With all this, she still finds time to work as an editor and a paper referee for several respected technical journals. In appreciation for her efforts, IEEE recognized her in 2016 with its Plasma Science and Applications Committee Award.

As an acclaimed expert in her specialty, Dr. Coverdale serves as a mentor and role model for women scientists. She also promotes greater STEM involvement for women. She has mentored several female students through her university collaborations and has served as a technical mentor at Sandia for junior staff members continuing her research. She also is a frequent speaker and promoter of STEM studies for women at IEEE-sponsored diversity events.

Dr. Coverdale has used her influence and contacts as a fellow to press for reforms to help include more women in technical society programs and award nominations. She persuaded the IEEE Nuclear and Plasma Sciences Society, for example, to establish a pilot program of child care subsidies to help make conference attendance more affordable for researchers with young children.

In 2013, Dr. Coverdale participated in the APS committee's study on the status of women in physics. She met with engineers and helped the committee prepare and submit its report to APS, complete with recommendations on how to improve future diversity in the physics workplace.

Dr. Coverdale is married and has three children. In her free time, she enjoys shifter-kart racing and volleyball matches with family and friends.

PRISM AWARD

Lesley Anne Polka, Ph.D.

INTEL CORPORATION



For outstanding technical performance in electrical engineering; for maintaining a strong connection with academic engineering; and for helping women engineers navigate the workplace, network, and excel.

As a child, Lesley Anne Polka, Ph.D., was fascinated by the Apollo 11 moon landing. This event sparked her interest in math, science, and emerging technologies, which she has pursued vigorously in academe and on the job ever since. In high school, she worked two summers as an intern at the Naval Research Laboratory in Washington, D.C., and taught herself Fortran, an experience that ignited her interest in computer and electrical engineering and informed her decision to major in electrical engineering.

Dr. Polka received her B.S., M.S., and Ph.D., all in electrical engineering, from Arizona State University (ASU), maintaining a 4.0 GPA the entire time she was a student. In her senior year, she joined a research group investigating computational and experimental electromagnetics methods as applied to stealth technology, a mathematical approach that became central to her graduate research. Dr. Polka was awarded a three-year, Office of Naval Research fellowship, presented regularly at international conferences, and published in peer-reviewed journals.

Currently a principal engineer at Intel Corporation in the Assembly and Test Technology Development division in Chandler, Arizona, Dr. Polka is responsible for all electrical aspects of package solutions for Intel's Custom Foundry customers. She has worked at the Chandler site for 21 years and has experience with many package technologies, including flip chip, wire bond, organic, and ceramic. She focuses mainly on high-speed signaling and memory bandwidth challenges. Among Dr. Polka's many technical contributions to Intel are launching high-performance packaging materials; developing new techniques and flows for

electrical modeling of new packaging technology; and driving electrical modeling approaches that enable tools and systems to span system architectures in new ways.

Because of her wide understanding — both theoretical and applied — of physics, math, engineering, and numerical methods, and because of her accomplishments at Intel, Dr. Polka has lectured at ASU in the electrical engineering and materials science departments and in the college of business. She has published 21 papers in industry journals and 24 papers on computational electromagnetics and electronic packaging in Intel publications. For the last eight years, she has served as the chief editor of the annual, peer-reviewed, *Intel Assembly and Test Technology Journal*. Dr. Polka holds three U.S. patents in electronic packaging.

A senior member of IEEE, Dr. Polka is also a founding member of the Phoenix section of IEEE Women in Engineering (WIE) and served as membership chair, secretary, and liaison to women, tirelessly encouraging women and girls to consider a career in engineering. She helped organize the 2001 and 2015 IEEE International Microwave Symposium and chaired the High School Invitational, a STEM outreach activity for local students.

Outside of work, Dr. Polka enjoys spending time with her family and can often be found with her husband watching their junior-high daughter's volleyball games and Irish dance recitals. Dr. Polka is also usually in the middle of reading at least one book, if not more, and particularly enjoys early 20th century mystery fiction and British mystery novels.



PRISM AWARD

Mindy Rapp

CATERPILLAR INC.

For tireless pursuit of technical excellence and effective team leadership in manufacturing, and for inspired mentoring and coaching of women and young people in the community.

Mindy Rapp is the manufacturing engineering planning manager for the global quality and manufacturing group in the Caterpillar Enterprise Services Group, responsible for Caterpillar's manufacturing advanced product quality planning process. She leads a team of advanced manufacturing engineering professionals to provide strategic manufacturing engineering support to the Caterpillar manufacturing facilities.

Rapp has held a variety of positions with Caterpillar, including technical services master black belt, Caterpillar production system (CPS) deployment champion, and quality manager. She is a certified Six Sigma black belt and a trained Six Sigma master black belt. Her ability to tackle complex critical projects and to create highly engaged teams has resulted in millions of dollars in labor and materials savings. As CPS deployment champion for the transmission business unit, she led CPS deployment efforts for five facilities globally. Her superior performance was recognized by top management at Caterpillar. Rapp credits SWE with helping her learn how to assemble effective, inclusive teams. Recently, Rapp was selected to lead the corporate advanced manufacturing engineering planning team in support of Caterpillar's Tier 4 initiative, an overhaul of products to comply with emissions standards in the United States, Europe, and Japan.

Before joining Caterpillar, Rapp was, for 10 years, a manufacturing operations leader at General Motors, working at facilities in Janesville, Wisconsin, and Wentzville, Missouri. In Wentzville, she managed a team of six second-shift supervisors and a crew of 250 automotive assemblers building the GMC full-size van. Her

collaborative leadership approach and lean manufacturing skills cut union grievances by 80 percent, increased the average daily throughput 4 percent, and reduced overtime by 8 percent. Nevertheless, Rapp wanted more business acumen and a broader understanding of manufacturing, so while working full time, she earned an MBA from Northern Illinois University.

Rapp graduated from Bradley University with a bachelor's degree in manufacturing engineering and received the Manufacturing Engineering Senior of the Year award. She earned a master's degree in manufacturing systems engineering from the University of Wisconsin-Madison. A member of the Bradley University industrial and manufacturing engineering advisory board, Rapp provides industry input on the engineering program curriculum and is active as a campus recruiter and mentor.

She is a member of the SWE Central Illinois Section and the Society of Manufacturing Engineers-Peoria Area Chapter 3. An enthusiastic supporter of women in STEM careers, Rapp has provided countless young women with career advice and encouragement through SWE and Caterpillar's Women's Initiative Network.

She lives with her husband and two children in Germantown Hills, Illinois. She volunteers at a Christian-based resale shop and with young people at her church. Rapp is an assistant scoutmaster for the Boy Scouts and a Girl Scout troop leader. She provides coaching on STEM merit badges for Boy Scouts and organized an event that enabled the girls in her daughter's troop to learn about physics and engineering design.

PRISM AWARD

Holly Rollins

BOOZ ALLEN HAMILTON



For remarkable career advancement and contributions, balancing the personal with the professional; and for devoting an extraordinary amount of time and talent to helping women engineers succeed.

Holly Rollins is a principal director with Booz Allen Hamilton, a consulting firm, where she started as a junior analyst in 1994. She now co-leads Booz Allen's U.S. Air Force cyber business and has direct reports in Denver, Colorado Springs, and San Antonio, Texas. She manages more than 100 professionals, four senior managers, and is accountable for all aspects of capture, sales business management, quality assurance, and staff development for her team.

Rollins' technical and business expertise spans cyber security, business case analysis, analysis of alternatives, capital planning, risk assessment, information assurance, and infrastructure financing and investment strategies. She also has extensive technical leadership experience in cyber security — notably, protection of banking and finance, telecommunication, and information technology assets. Mathematical and business modeling she helped provide has strongly influenced the corporate approach to emergency and disaster recovery. She co-authored the National Institute of Standards and Technology (NIST) Special Publication 800-65, *Integrating IT Security into Capital Planning and Investment Control Process*.

An advocate of cutting-edge capabilities, Rollins is helping the Air Force harden and secure major weapon systems that historically have fallen outside of traditional cyber security. Rollins helped Booz Allen be a thought leader in this area and guide clients through new security challenges.

For eight of her 22 years with Booz Allen, Rollins worked part time. When her second child was born, she chose part-time status and moved from McLean,

Virginia, to Houston. Despite the upheaval, she maintained her career momentum and visibility.

Rollins has a B.A. in political science from Baylor University and an MBA in finance from The University of Texas at San Antonio. She earned a certificate of international business from The Johns Hopkins University and holds a Top Secret/Sensitive Compartmented Information security clearance. She is a certified expert independent assessor and has both an INFOSEC Professional Certification NSTISSI 4011 and a Senior IA Systems Manager Certification CNSSI 4012.

A champion of education and of STEM careers for women, Rollins promotes mentoring circles, senior women's round-table events, new and expectant mother workshops, and senior leadership pipeline management at Booz Allen. She has coached six staff through senior promotions, and she serves on the SWE leadership advisory team at Booz Allen.

Rollins founded and directed "After 5," a small-group professional network covering eight counties in the Washington, D.C., area. After 5 united women of all ages and career stages through networking, mentoring, and support. From 2011 to 2014, Rollins served on the Monument Academy school board as both president and secretary. She developed school performance measures and wrote several grant applications that generated \$200,000 in STEM grants to launch a K-8 computer-based learning program.

Rollins lives in Monument, Colorado, with her husband and two children. They enjoy snow skiing, camping, and hiking in the area.



PRISM AWARD

Susan Stevenson

PRAXAIR INC.

For brilliant technical advances and innovations, including a formal program to encourage mentoring; and for providing insight and guidance for the establishment of congressional STEM legislation.

Susan Stevenson, executive director of capital, productivity, and energy for Praxair Inc., holds one of the top leadership positions in the global industrial gas company's U.S. business. As such, she oversees the operating soundness of Praxair U.S. facilities, proposed plant-productivity improvements, and purchases of electricity and natural gas for those facilities. She also leads the custom-engineering organization that designs and installs the cryogenic supply systems used at many Praxair customer locations.

Stevenson's rise within Praxair, from a process engineer in 1993 to her current position as one of the top managers in their U.S. business, took slightly more than two decades. She achieved her success by exceeding expectations at every turn and by strategically applying the principles of continuous improvement to herself and her career.

In her first position, Stevenson used her bachelor's degree in chemical engineering, listening skills, problem-solving abilities, and creativity to discover unmet customer needs and deliver solutions. The improvements she made to Praxair's standard cryogenic air-separation system processes earned her five patents and considerable management attention.

In each succeeding assignment, Stevenson followed the same basic pattern: Acquire the necessary technical knowledge and skills, combine that with prior lessons learned; and then inspire the team to produce highly positive results.

Each newly acquired skill, customer insight, and technical or managerial role gave her greater depth and more opportunities to grow. As Stevenson advanced into more technical work, she completed her master's in mechanical engineering, and as she began receiving more business and project management roles, she completed her MBA and her certification as a project manager. Soon, she wasn't merely discovering unmet customer needs; she was finding profitable, new business niches for Praxair.

In her varied assignments, Stevenson developed a new, cheaper, and cleaner method for manufacturing glass; designed and implemented more versatile gas-separation equipment; and created Praxair's first line of large-scale, yet customizable, air-separation units. She also came up with a new nitrogen plant design to help global electronics companies more efficiently manufacture the new generation of semiconductors — and secured Praxair's marketing rights through a joint-development agreement.

Early in her career, Stevenson realized the value of creating strong, supportive relationships in the workplace and she created "Connections," a mentoring program for women in which participants develop a series of professional, personal, and community activities over 18 months to support their personal and professional growth. "Connections" has grown into an international Praxair program involving more than 250 employees in 12 countries.

As a mentor/role model to many women within Praxair, Stevenson's strong voice for the advancement of women within the company and on her leadership team was recently recognized at Praxair's International Women's Day event.

She has actively promoted STEM — first in Connecticut by serving as a judge in the Danbury school districts' Invention Convention. More recently, she provided valuable insight and guidance to U.S. Rep. Elizabeth Esty as she crafted legislation in support of STEM education and careers, through the STEM Education Act.

Stevenson earned her B.S. in chemical engineering from the University of Notre Dame and her M.S. in mechanical engineering and MBA from the State University of New York at Buffalo. She lives in Newtown, Connecticut, with her husband and daughters.

SPARK AWARD

Rhonda L. Childress

IBM CORPORATION



For global influence on women in STEM, and for embodying the notion “pay it forward” in word and in deed by inspiring countless others to do the same.

Rhonda L. Childress is chief technology officer, security services for IBM Corporation and has extensive experience as a chief architect and interface to client Chief Information Security Officer (CISO) organizations. As an Open Group Distinguished Certified Architect and Master Inventor, she generates client technical deliverables and important innovation and standards for delivery. In 2014, Childress was named one of the first-ever IBM fellows in the security field.

She joined IBM in 1992, bringing 10 years of expertise in security and compliance, design and implementation of business and management applications, system administration for midrange systems and networks, and enterprise architecture. Her work has spanned many industries, including the financial services, communications, distribution, and life sciences/pharmaceutical sectors.

Childress discovered a passion for mentoring after first experiencing the lack of it. When attempting to become one of the first IT architects in a new Business Unit at IBM, no mentor was available to her, and she was not successful on her first try. Achieving success on her second attempt was due in part to a mentor becoming accessible. She has never forgotten that lesson, and it is reflected in her mentorship of adults and schoolchildren alike.

She has participated in mentoring activities on six continents, a feat for which she received IBM's first Mark Ernst Memorial Award for Outstanding Mentoring in 2011. Her mentoring style fosters a teaching and sharing culture that has one simple rule: “Pay it forward.” Each person Childress mentors must in turn successfully mentor five others. Of those five, at least

two must be women. She creates and shares tips and tools, such as a career-tracking spreadsheet, which helps them prepare for promotions — a tool so successful that it is known simply as “Rhonda’s spreadsheet.” She is always looking for experience and executive exposure that can benefit her mentees, and makes connections that include them. She has enabled a vast network of people who are “paying it forward.”

Childress is also a strong supporter of “reverse mentoring,” receiving feedback from her mentees on topics such as social media and presentation styles. This openness has led to her being known as one of the most approachable, down-to-earth senior women at IBM. As she travels globally, she conducts round tables with women, most recently in China, Malaysia, England, and Costa Rica.

Since being appointed a Distinguished Engineer in 2007 (the company’s second-highest technical rank), Childress has mentored at least one female engineer each year and has empowered 16 women to achieve that standing.

Childress earned her B.S. from Kentucky State University. She has been recognized as an IBM Master Inventor, the 2014 Texas Inventor of the Year, and is a recipient of the IBM Academy of Technology Presidents Award. Currently, she has 82 issued patents, with more than 50 pending.

Married for 31 years, Childress has two sons, ages 24 and 22. She enjoys inventing, home improvement activities, and recently participating in chili cookoffs. With the mentoring of a friend, after one year she qualified for the World Chili Championships.